ABSTRACT OF THE DISCLOSURE

A system for determining a bad link in a ring includes a start-up controller that transmits a link command having a position field holding initial value. Each device in the ring increments the value held in the position field of a received position command and transmits a modified position command having a position field holding an incremented value. If no valid position command is received at a device it transmits a modified position command having a position field holding the initial value. The start-up device compares the received value held in the position field of a received position command with an expected value to determine the existence and location of a bad link.